Q.P. Code :13084

[Time: Three Hours]   [Marks:80]

Please check whether you have got the right question paper.

N.B: 1.   Question no 1 is compulsory.
         2.   Attempt any three questions from remaining five questions.
         3.   Assume suitable data if necessary
         4.   Figures to right indicate marks.

Q.1   Solve any four out of five.   20

A. Write a note on scanner.

B. What are the functions of following registers?

   i) IR   ii) SP   iii) MAR   IV) MDR   V) PC

C. Compare SRAM & DRAM?

D. What the help of diagram, explain Von-Neumann's architecture?

E. What are the major requirements of I/O module?

Q.2   A. Divide 7 by 3 using non-restoring division algorithms.   10

      B. Explain various pipeline hazards with example.   10

Q.3   A. Multiply (-5) and (2) using Booth's Algorithm.   10

      B. Consider the string 9,8,2,3,2,9,5,9,8,2,6,7,5,3,8,2,3,2,8 Find the page faults for 3 frames using FIFO, 10
      OPT, & LRU page replacement policies.

Q.4   A. Explain various cache mapping functions.   10

      B. Draw and explain instruction cycle with interrupt execution.   10

Q.5   A. Discuss the functions of 8089 I/O processor.   05

      B. Explain the memory hierarchy.   05

      C. Describe the register organization within the CPU.   10

Q.6   A. What is bus arbitration? Explain its techniques.   10

      B. What is TLB? Explain its working.   10

361A37300AC6F639BFBB71DBD2CB7CE8